Annual Status Report
on the
Disposal of Chemical Weapons and Materiel
for Fiscal Year 2005

September 30, 2005

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EXECUTIVE SUMMARY

Introduction

The Department of Defense is submitting this annual report for Fiscal Year (FY) 2005 to the United States (U.S.) Congress pursuant to Title 50, U.S. Code (USC), Section 1521(g). The report documents the status of the U.S. Chemical Demilitarization Program as of September 30, 2005.

Programmatic Activities

The U.S. Army Chemical Materials Agency (CMA) manages this nationally important and internationally significant program to safely store and destroy all U.S. chemical warfare materiel (CWM) with joint oversight from the Assistant Secretary of the Army for Acquisition, Logistics and Technology and the Commanding General, U.S. Army Materiel Command. A stockpile disposal facility in Colorado and one in Kentucky are managed by the Program Manager Assembled Chemical Weapons Alternatives (PMACWA), in accordance with Public Law (PL) 107-248, Section 8122, who directly reports to the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), in accordance with PL 105-261, Section 142.

Pursuant to 50, USC, Section 1521(d), the Office of the USD(AT&L) and the Office of the Secretary of the Army jointly prepared a strategic plan for future activities to destroy the U.S. stockpile of lethal chemical agents and munitions. The *Strategic Plan for Destruction of Lethal Chemical Agents and Munitions*, dated April 2005, addresses realistic budgeting for stockpile destruction and related support programs, contingency planning for foreseeable and anticipated problems, as well as a management approach that addresses compliance with the obligations of the United States under the Chemical Weapons Convention (CWC) and actions to accelerate destruction of the stockpile.

Safety is the top priority for storage and demilitarization operations. The chemical stockpile monitoring and inspection program ensures that chemical storage remains safe. During FY 2005, a total of 173 leaking chemical munitions were discovered and overpacked without incident in accordance with long-standing procedures. While the stockpile can be safely stored for the indeterminate future, over time, the weapon components tend to develop increasing numbers of leaks. These leaks pose potential risks to workers at the storage sites but are unlikely to endanger off-post communities in the vicinity of the storage sites. CMA is working to eliminate this risk by pursuing the expeditious destruction of the chemical stockpile while maintaining its commitment to safety and protection of the environment. Chemical disposal operations follow a rigorous conduct of operations philosophy with safety as the central premise that is embraced by the entire workforce. Under the Chemical Stockpile Emergency Preparedness Program (CSEPP), CMA continues to maintain emergency preparedness and improve operational readiness at chemical storage installations, as well as provide assistance to communities in partnership with the Department of Homeland Security, Federal Emergency Management Agency and state and local governments.

During FY 2005, CMA initiated chemical weapons destruction operations at its disposal facilities located in Pine Bluff, Arkansas, and Newport, Indiana. All CMA-managed disposal facilities are now operational. The disposal facility in Aberdeen, Maryland, completed draining of the last remaining ton containers (TCs) and neutralization of the drained agent. The Maryland site thus became the first in the continental United States at which the risk from chemical stockpile storage has been eliminated.

Significant programmatic activities of CMA during FY 2005 included environmental compliance and environmental management, as well as successful implementation of the new airborne exposure limits for chemical agents by the required implementation dates. The CMA public affairs team continued its efforts to reach out to all program stakeholders by providing a variety of informational materials and opportunities for stakeholders to interact with agency personnel, as well as providing input and feedback on CMA activities. Citizens' Advisory Commissions (CACs) continued to be an important partner of CMA. The agency spent a total of $27,027 in FY 2005 to reimburse CAC members for travel expenses incurred while carrying out their mission.

The FY 2005 Chemical Agents and Munitions Destruction, Army appropriation was $1,373.0 million, which includes $175.0 million for PMACWA.[1] During FY 2005, $1,353 million of FY 2005 and prior year funds were disbursed for activities carried out under Section 1521 of 50 USC. Disbursed amounts are lower than appropriated funding because funds appropriated as multi-year funds may be obligated in the following years or some single-year funds were obligated but not disbursed during FY 2005. The following table reflects disbursements as of September 30, 2005. Funds were disbursed as follows[2]:

Purpose	Funds Disbursed ($ in thousands)
Construction of and equipment for chemical disposal facilities (includes systemization)	151,577
Operation of chemical disposal facilities	682,767
Dismantling and closure of chemical disposal facilities	4,004
Research and development	147,411
Program Management (includes Chemical Demilitarization Training Facility)	88,479
Non-stockpile chemical materiel disposal	128,333
Chemical Stockpile Emergency Preparedness Program	150,203
Travel and associated travel costs for CAC members (detailed in the following paragraphs)	27
TOTAL	1,352,801

The table in Appendix C shows the funds disbursed by project and location. The total cost of the program is $32.7 billion, as reported in the December 2004 Selected Acquisition Reports for Chemical Demilitarization-CMA, Chemical Demilitarization-CMA Newport, and Chemical Demilitarization-ACWA.

1 This amount does not include military construction funding.
2 Source: DFAS 218 report.

Chemical Weapons Convention

The United States maintained compliance with the CWC during FY 2005. As of September 30, 2005, CMA has destroyed 34.6 percent of the declared Category 1 CWM and is working toward the extended deadline of December 2007 for destruction of 45 percent of Category 1 chemical weapons.

Chemical Stockpile Disposal

During FY 2005, CMA chemical agent disposal facilities destroyed approximately 1,796 U.S. tons of chemical agent (5.7 percent) out of the original United States stockpile of 31,498 U.S. tons. As of September 30, 2005, the United States has destroyed a total of 11,655 U.S. tons (37.0 percent) of the original United States stockpile. The status of the facilities is as follows:

Tooele Chemical Agent Disposal Facility, Utah. During FY 2005, the Tooele Chemical Agent Disposal Facility (TOCDF) destroyed 533 spray tanks and 22,690 M23 land mines, which contained approximately 487 U.S. tons of nerve agent VX. On June 3, 2005, TOCDF completed destruction of the nerve agent VX stockpile stored at Deseret Chemical Depot (DCD). All GB and VX nerve agent that was stored at DCD has now been destroyed, resulting in a 99 percent reduction in public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical munitions and agents.

Anniston Chemical Agent Disposal Facility, Alabama. The Anniston Chemical Agent Disposal Facility (ANCDF) completed three munitions campaigns during FY 2005, destroying 1,645 nerve agent GB M55 rockets, 16,026 GB 8-inch projectiles, and 9,600 GB 155mm projectiles. In addition, ANCDF destroyed 13,863 GB 105mm projectiles. Munitions destroyed during FY 2005 contained approximately 168 U.S. tons of nerve agent GB.

Umatilla Chemical Agent Disposal Facility, Oregon. The Umatilla Chemical Agent Disposal Facility continued destruction of chemical weapons during FY 2005, destroying 30,867 M55 rockets and 12 MC-1 bombs, which contained 166 U.S. tons of nerve agent GB.

Pine Bluff Chemical Agent Disposal Facility, Arkansas. The Pine Bluff Chemical Agent Disposal Facility (PBCDF) began chemical agent destruction operations on March 28, 2005, with the delivery of the first M55 rocket, which was destroyed on March 29, 2005. During FY 2005, PBCDF destroyed 19,819 M55 rockets, which contained 106.0 U.S. tons of nerve agent GB.

Aberdeen Chemical Agent Disposal Facility, Maryland. The Aberdeen Chemical Agent Disposal Facility completed draining of TCs and neutralization of the drained mustard agent on March 11, 2005, eliminating the risk from chemical stockpile storage at the site. During FY 2005, the facility drained 982 TCs and neutralized approximately 869 U.S. tons of mustard agent. TC cleanout (TCC) operations began on January 7, 2005, processing 927 TCs as of September 30, 2005. A total of

approximately 5,028,252 gallons of hydrolysate have been shipped to the contracted offsite treatment facility. With the chemical weapons stockpile at this site destroyed, the Edgewood Chemical Activity office was closed during FY 2005 and the Maryland CSEPP was terminated at the end of the FY.

Newport Chemical Agent Disposal Facility, Indiana. The Newport Chemical Agent Disposal Facility began chemical agent neutralization operations on May 5, 2005. As of September 30, 2005, a total of 28 TCs have been drained, 20 U.S. tons of nerve agent VX have been neutralized, and 26 TCs have been processed through the decontamination facility. Caustic wastewater (hydrolysate) is currently being stored on site in leased containers and must be treated and disposed of before credit for destruction under the CWC may be taken.

Pueblo Chemical Agent-Destruction Pilot Plant, Colorado. Design efforts for the Pueblo Chemical Agent-Destruction Pilot Plant continued during FY 2005.

Blue Grass Chemical Agent-Destruction Pilot Plant, Kentucky. Design efforts for the Blue Grass Chemical Agent-Destruction Pilot Plant continued during FY 2005.

Non-Stockpile Chemical Materiel Disposal

The Project Manager for Non-Stockpile Chemical Materiel (PMNSCM) carried out a variety of activities to destroy CWM not classified as part of the U.S. chemical stockpile, including:

Recovered Chemical Warfare Materiel. Supported activities to recover and destroy CWM at Spring Valley, Washington D.C.; Schofield Army Barracks, Hawaii; Camp Barkeley, Texas; Honolulu, Hawaii; Fort Bragg, North Carolina; Francis E. Warren Air Force Base, Wyoming; Milford, Delaware; San Francisco, California; and Former Lowry Bombing and Gunnery Range, Colorado.

Binary Chemical Weapons Disposal. Construction of the Pine Bluff Binary Destruction Facility was completed during FY 2005. PMNSCM initiated systemization of neutralization systems in a converted portion of the former Integrated Binary Production Facility (IBPF) at Pine Bluff Arsenal (PBA), Arkansas.

Former Chemical Weapons Production Facilities. Continued destruction of the former Nerve Agent VX Production Facility, Newport Chemical Depot, Indiana, and the IBPF at PBA, Arkansas.

Miscellaneous CWM. Miscellaneous CWM includes empty TCs, Category 3 chemical weapons, and chemical samples. Activities during FY 2005 included destruction of empty TCs at Aberdeen Proving Ground-Edgewood Area (APG-EA), Maryland, and PBA, Arkansas; disposal of newly discovered and declared Category 3 chemical weapons at Umatilla Chemical Depot, Oregon; and disposal of chemical samples at APG-EA.

Incidents

During FY 2005, four Category II chemical events (defined in accordance with Army Regulation 50-6, *Chemical Surety*) occurred at CMA and ACWA facilities, and PMNSCM sites. In addition, 60 Category I chemical events occurred. None of the events resulted in agent exposure of personnel or agent release to the environment. No Category III chemical events occurred during FY 2005. Operational issues are discussed in the sections for the site at which they occurred.

Planned Activities for FY 2006

During FY 2006, disposal operations will continue at operating chemical agent disposal facilities in Utah, Alabama, Oregon, Indiana, and Arkansas. The Maryland facility will complete TCC operations and begin closure. Design work will continue at the two remaining facilities in Colorado and Kentucky. PMNSCM will continue efforts to destroy former production facilities and dispose of non-stockpile CWM, including destruction of the remaining binary weapon components.

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I. CHEMICAL DEMILITARIZATION PROGRAM

Introduction

The Department of Defense (DoD) is submitting this annual report for Fiscal Year (FY) 2005 to the United States (U.S.) Congress pursuant to Title 50, U.S. Code (USC), Section 1521(g). The report documents the status of the U.S. Chemical Demilitarization Program (CDP) as of September 30, 2005. The CDP is in place to destroy the U.S. stockpile of lethal chemical agents and munitions, as well as non-stockpile chemical materiel (NSCM). Disposal of chemical warfare materiel (CWM) reduces public and environmental risk stemming from continued storage and serves to meet international obligations under the Chemical Weapons Convention (CWC).

Program Management

The U.S. Army Chemical Materials Agency (CMA) continues to manage chemical stockpile storage and disposal, except at the Pueblo, Colorado, and Blue Grass, Kentucky, locations, which are managed by the Program Manager for Assembled Chemical Weapons Alternatives (PMACWA) in accordance with Public Law (PL) 107-248, Section 8122.

On November 19, 2004, the Defense Acquisition Board reviewed cost and schedule options for the CDP. As a result, the acting Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) on December 21, 2004, issued an Acquisition Decision Memorandum (ADM) dividing the CDP into three Major Defense Acquisition Programs: Chemical Demilitarization-CMA, Chemical Demilitarization-CMA Newport, and Chemical Demilitarization-ACWA. Chemical Demilitarization-CMA includes chemical stockpile disposal at Deseret Chemical Depot (DCD), Utah; Anniston Army Depot (ANAD), Alabama; Umatilla Chemical Depot (UMCD), Oregon; Pine Bluff Arsenal (PBA), Arkansas; and Aberdeen Proving Ground-Edgewood Area (APG-EA), Maryland. It also includes the Non-Stockpile Chemical Materiel Project (NSCMP) and the Chemical Stockpile Emergency Preparedness Program (CSEPP) for all sites and their surrounding communities. The mission of Chemical Demilitarization-CMA Newport is to destroy the chemical stockpile stored at Newport Chemical Depot (NECD), Indiana. Chemical Demilitarization-ACWA includes chemical stockpile destruction at Pueblo Chemical Depot (PCD), Colorado, and Blue Grass Army Depot (BGAD), Kentucky.

Chemical Demilitarization-CMA and Chemical Demilitarization-CMA Newport are under U.S. Army management as acquisition category (ACAT) 1D programs. DoD manages Chemical Demilitarization-ACWA as an ACAT 1D program. The December 21, 2004, ADM further requested a funding profile and Acquisition Program Baseline (APB) for each of the three programs. The APBs are under development as of September 30, 2005.

Strategic Planning

Pursuant to 50 USC 1521(d), the Office of the USD(AT&L) and the Office of the Secretary of the Army jointly prepared a strategic plan for future activities for destruction

of the U.S. stockpile of lethal chemical agents and munitions. The *Strategic Plan for Destruction of Lethal Chemical Agents and Munitions*, dated April 2005, addresses realistic budgeting for stockpile destruction and related support programs, contingency planning for foreseeable and anticipated problems, as well as a management approach that addresses compliance with the obligations of the United States under the CWC and actions to accelerate destruction of the stockpile.

The strategic plan applies to both the CMA- and PMACWA-managed portions of the CDP and presents the vision, mission, and long-term goals of the program, explaining the DoD's approach to fulfilling the vision, achieving the mission, and accomplishing the goals. The plan provides a broad framework for planning, budgeting, assessment, and continuous improvement, and serves as a guide for integrating and monitoring the performance of all organizational and programmatic elements.

The strategic plan presents four overarching strategic goals for the CDP:

- Goal 1: Destroy the chemical weapons stockpile and former production facilities in compliance with the CWC while ensuring the safety of the workers, the public, and the environment
- Goal 2: Employ sound business practices to ensure efficient life cycle management of resources
- Goal 3: Institute a program of continuous improvement regarding safety, environmental protection, efficient operations and maintenance, and facility closure to mitigate risks and ensure compliance with statutory, regulatory, and policy requirements and decision
- Goal 4: Maintain communications with the public, local officials, and national officials to increase awareness, understanding, and support of the CDP.

In addition, CMA developed the *U.S. Army Chemical Materials Agency Strategic Plan*, dated July 2005, which contains 18 strategic objectives supporting the top-level goals in the DoD plan in the areas of core competencies, sound business practices, personnel learning and growth, and resources.

CMA is implementing performance measures to validate the effectiveness of the strategic planning approach using the Department of the Army (DA) Strategic Readiness System and a balanced scorecard methodology to track the accomplishment of strategic goals.

Safety of the Chemical Stockpile

CMA continued to evaluate the safety and integrity of the chemical stockpile through a monitoring and inspection program, as well as through analytical sampling and analysis. While the stockpile can be safely stored for the indeterminate future, over time, the weapon components tend to develop increasing numbers of leaks. These leaks pose potential risks to workers at the storage sites but are unlikely to endanger off-post communities in the vicinity of the storage sites. Additionally, prolonged storage heightens the possibility of a catastrophic event caused by either human activity or natural disasters. CMA is working to eliminate this public risk by pursuing the

expeditious destruction of the chemical stockpile while maintaining its commitment to safety and protection of the environment.

During FY 2005, a total of 173 leaking munitions were discovered and overpacked in accordance with long-standing procedures without incident. CMA has adopted a new family of high performance overpack containers to safely contain leaking containers and munitions. For historical leaker information, see Appendix B.

CMA continued analytical work to address M55 rocket risk reduction. M55 rocket risk stems primarily from lightning and earthquakes, and can be reduced by banding pallets, lowering stack height, and placement of dielectric barriers. These measures are in place at ANAD and PBA and studies for implementation at BGAD have been completed. A risk assessment of mustard ton container (TC) sampling at DCD is being performed to help identify the best way to perform the sampling while minimizing risk to the workers and the public. The potential for TC pressurization from the formation of hydrogen gas is being considered in the analysis. CMA is also conducting a risk trade-off analysis for moving munitions from storage facilities to disposal plants to improve safety during munitions movement.

Environmental Compliance and Chemical Agent Monitoring

CMA and PMACWA continued to work with the DoD, the DA, the U.S. Environmental Protection Agency (EPA), and state and local regulatory agencies to ensure continued compliance with environmental regulations. In addition, CMA continued implementation of an ISO 14001[1] Environmental Management System at chemical agent disposal facilities (CDFs).

CMA successfully implemented the revised airborne exposure limits (AELs) for chemical agents by the required dates: January 1, 2005, for nerve agents and July 1, 2005, for mustard agent. Evaluation of new monitoring technologies continued as part of the ongoing CMA mission to conduct such evaluations, as well as to comply with provisions of PL 108-136, Section 1056(b). In cooperation with the National Research Council (NRC), CMA held a workshop on October 11, 2005, to supplement a workshop conducted during August 2004 in Washington D.C. (reported in the FY 2004 edition of this report). During this workshop, CMA and the NRC presented the findings of a study that produced the NRC report *Monitoring at Chemical Agent Disposal Facilities*. For more information, see the Program Reviews section on page 6 of this report.

Chemical Stockpile Emergency Preparedness

The Director, CSEPP, continued to maintain emergency preparedness and improve operational readiness at chemical agent storage installations, as well as work with the Department of Homeland Security, Federal Emergency Management Agency (DHS-FEMA) and state and local governments to provide assistance to communities.

[1] ISO 14001 is the International Organization for Standardization standard for Environmental Management Systems.

The chemical depots and activities have all CSEPP enhancements in place and are in sustainment. DHS-FEMA conducts the off-post emergency preparedness program and is supported by the Army, which provides DHS-FEMA with funding for state grants and technical assistance. According to PL 105-261, Section 141, the Director of DHS-FEMA will provide a separate report to Congress outlining accomplishments and issues in participating civilian communities.

Annual exercises were held at seven of the eight stockpile sites. The exercise at APG-EA, Maryland, was omitted due to the completion of TC draining and neutralization of drained agent, which eliminated the risk from chemical stockpile storage at that location.

During FY 2005, planning and coordination were conducted to prepare for the next Service Response Force Exercise (SRFX), which will be held at ANAD, from March 1 to 3, 2006. Army Regulation (AR) 50-6, *Chemical Surety*, requires an SRFX on a biennial basis to train and demonstrate the Army's ability to move assets, expertise, and equipment to support emergency response to major chemical events at any U.S. Army location. The DA, the U.S. Army Materiel Command (AMC), the State of Alabama, and all CSEPP counties surrounding ANAD will participate in this event.

CSEPP Planning and Program Guidance documents were updated and revised for the first time since 1996. The goal was to make the documents more reflective of technological advances and compliant with the National Incident Command System.

The Director, CSEPP, conducted the CSEPP National Workshop in Pueblo, Colorado, from June 28 to 30, 2005. More than 400 federal, state, county, and contractor representatives attended.

Public Outreach

During FY 2005, CMA began to implement its FY 2005 through FY 2010 overarching strategic communications plan. The plan is based on five strategic communications goals, including the following:

- Increase internal audience understanding of the CMA program, its objectives, key messages, and activities
- Provide information to external audiences about CMA's commitment to fulfilling its national imperatives and meeting the needs of today's military
- Foster support among influential stakeholders through coordinated efforts with U.S. Army leadership, CMA management, employees, and contractors
- Ensure that CMA communicates effectively about evolving issues, opportunities, and challenges
- Maximize public affairs management at headquarters and the site level.

These goals guide management decisions and provide a consistent framework for communications action plans, outreach initiatives, and performance measures.

CMA has developed specific objectives and measures of success for each goal that formed the foundation for the development of a public outreach balanced scorecard during FY 2005. This balanced scorecard, which is aligned with the overarching CMA scorecard, will serve as a performance management system to evaluate and monitor progress toward achieving and validating effective outreach and communications efforts with the agency's many stakeholders.

Program Funding and Expenditures

The FY 2005 Chemical Agents and Munitions Destruction, Army appropriation was $1,373.0 million, which includes $175.0 million for PMACWA.[2]

During FY 2005, $1,353 million of FY 2005 and prior year funds were disbursed for activities carried out under 50 USC, Section 1521. Disbursed amounts are lower than appropriated funding because funds appropriated as multi-year funds may be obligated in the following years or some single-year funds were obligated but not disbursed during FY 2005. The following table reflects disbursements as of September 30, 2005. Funds were disbursed as follows[3]:

Purpose	Funds Disbursed ($ in thousands)
Construction of and equipment for chemical disposal facilities (includes systemization)	151,577
Operation of chemical disposal facilities	682,767
Dismantling and closure of chemical disposal facilities	4,004
Research and development	147,411
Program management (includes Chemical Demilitarization Training Facility)	88,479
Non-stockpile chemical materiel disposal	128,333
Chemical Stockpile Emergency Preparedness Program	150,203
Travel and associated travel costs for Citizens' Advisory Commission members (detailed in the following paragraphs)	27
TOTAL	1,352,801

The table in Appendix C shows the funds disbursed as of September 30, 2005, by project and location.

The current life cycle cost (LCC) estimate, as reported in the December 2004 Selected Acquisition Reports for Chemical Demilitarization-CMA, Chemical Demilitarization-CMA Newport, and Chemical Demilitarization-ACWA, is $32.7 billion. CMA continued to implement and refine cost control initiatives, including the Earned Value Management System, as well as award fee and performance-based incentives for chemical demilitarization contractors.

[2] This amount does not include military construction funding.
[3] Source: DFAS 218 report.

Citizens' Advisory Commissions Travel Cost Summary

The following table displays funds expended for travel by Citizens' Advisory Commission (CAC) members during FY 2005 at the invitation of the Deputy Assistant Secretary of the Army (Elimination of Chemical Weapons).

State	Expenditures
Alabama	$7,012
Arkansas	$2,919
Colorado	$5,834
Maryland	$0
Indiana	$0
Kentucky	$1,328
Oregon	$8,999
Utah	$935
TOTAL	**$27,027**

Program Reviews

The NRC issued its report, *Monitoring at Chemical Agent Disposal Facilities*, in August 2005. The report assesses current monitoring systems used for airborne agent detection at CMA facilities and the applicability and availability of innovative new technologies. In addition, the report provides a review of how new regulatory requirements would affect current agent monitoring procedures, as well as whether new measurement technologies are available and can be effectively incorporated into the overall chemical agent monitoring strategies of CMA. The U.S. Army requested the study due to CMA's need to reevaluate and redefine its monitoring policies in response to the adoption of the revised AELs. The study was also motivated by congressional interest in the possibility of using additional fence-line or community monitoring technologies that might provide extra warning for the public in the event of a significant release of chemical agent from storage or disposal facilities as reflected in PL 108-136, Section 1056. The NRC concluded that monitoring at the new AELs is appropriate to ensure worker protection at CDFs and that the air monitoring equipment used by CMA provides sufficient and reliable chemical agent detection capability to afford adequate protection to the workers, public, and the environment. The report acknowledges significant steps taken by CMA to enhance agent monitoring and recommends measures for further improvement, including incremental upgrades to existing systems and evaluation of new technologies, but it suggests that new monitoring equipment should only be deployed after a thorough risk/benefit analysis.

The NRC also issued reports addressing the designs of chemical weapons destruction facilities at Pueblo, Colorado, and Blue Grass, Kentucky. The DoD Inspector General issued an audit report of the Pueblo project. These reports are summarized in the sections of this report dedicated to these facilities, beginning on page 35 for Pueblo and page 39 for Blue Grass.

FY 2006 Planned Activities

During FY 2006, CMA will continue programmatic efforts critical to the safe destruction of U.S. CWM. The safety of chemical stockpile storage and disposal operations will remain CMA's top priority. These efforts will include ensuring environmental compliance in all operating facilities and working toward ISO 14001-like conformance certification at CDFs. CMA will remain focused on involvement of communities, Congress, and other stakeholders, as well as communications with the chemical demilitarization work force to ensure that their information needs are met.

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II. CHEMICAL WEAPONS CONVENTION

The United States continued to comply with the requirements of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, commonly known as the CWC.

Of the original U.S. Category 1 chemical materiel, consisting of 32,194 tons of chemical agent (31,498 stockpile and 696 non-stockpile tons), 1,582 U.S. tons were destroyed prior to entry into force of the CWC on April 29, 1997. Thus, the declared Category 1 chemical materiel consists of 30,612 U.S. tons of chemical agent, including 696 U.S. tons of NSCM. Category 1 chemical weapons include the unitary chemical stockpile, binary components, and some chemical samples and recovered chemical weapons. For CWC purposes, 34.6 percent of the declared Category 1 chemical materiel has been destroyed as of September 30, 2005. The United States is working toward meeting the extended deadline of December 2007 for destruction of 45 percent of Category 1 chemical weapons. As reported previously, the formal U.S. request for this extension was granted by the Organisation for the Prohibition of Chemical Weapons (OPCW) Conference of State Parties on October 3, 2003.

In addition to destruction of chemical weapons, the CWC also requires destruction of former (chemical weapons) production facilities (FPFs) or conversion of FPFs for purposes not prohibited under the Convention by April 29, 2007. As of September 30, 2005, the United States had destroyed more than 83 percent of its capacity to produce chemical weapons.

The United States continued to support the presence of CWC inspectors to monitor the destruction of unitary chemical weapons at chemical stockpile disposal facilities, as well as host periodic inspections at chemical storage facilities and FPFs.

CMA prepared several documents that were submitted by the United States to the OPCW in accordance with CWC requirements. The annual chemical weapons and FPF destruction plans and reports prepared in FY 2005 for submission to the OPCW are shown in the following table. These plans and reports cover the calendar years shown in their titles, not FY 2005.

CWC Destruction Plans and Reports Prepared in FY 2005	Month and Year
United States of America, 2004 Annual Report for Destruction of Chemical Weapons	February 2005
United States of America, 2004 Annual Report for Destruction of Former Chemical Weapons Production Facilities	March 2005
United States of America, 2006 Annual Plan for Destruction of Former Chemical Weapons Production Facilities	September 2005
United States of America, 2006 Annual Plan for Destruction of Chemical Weapons	October 2005*

* To be submitted in first quarter of FY 2006

CMA continued to support the U.S. Army in working with OPCW to negotiate inspection and verification agreements for U.S. chemical storage, disposal, and former production facilities.

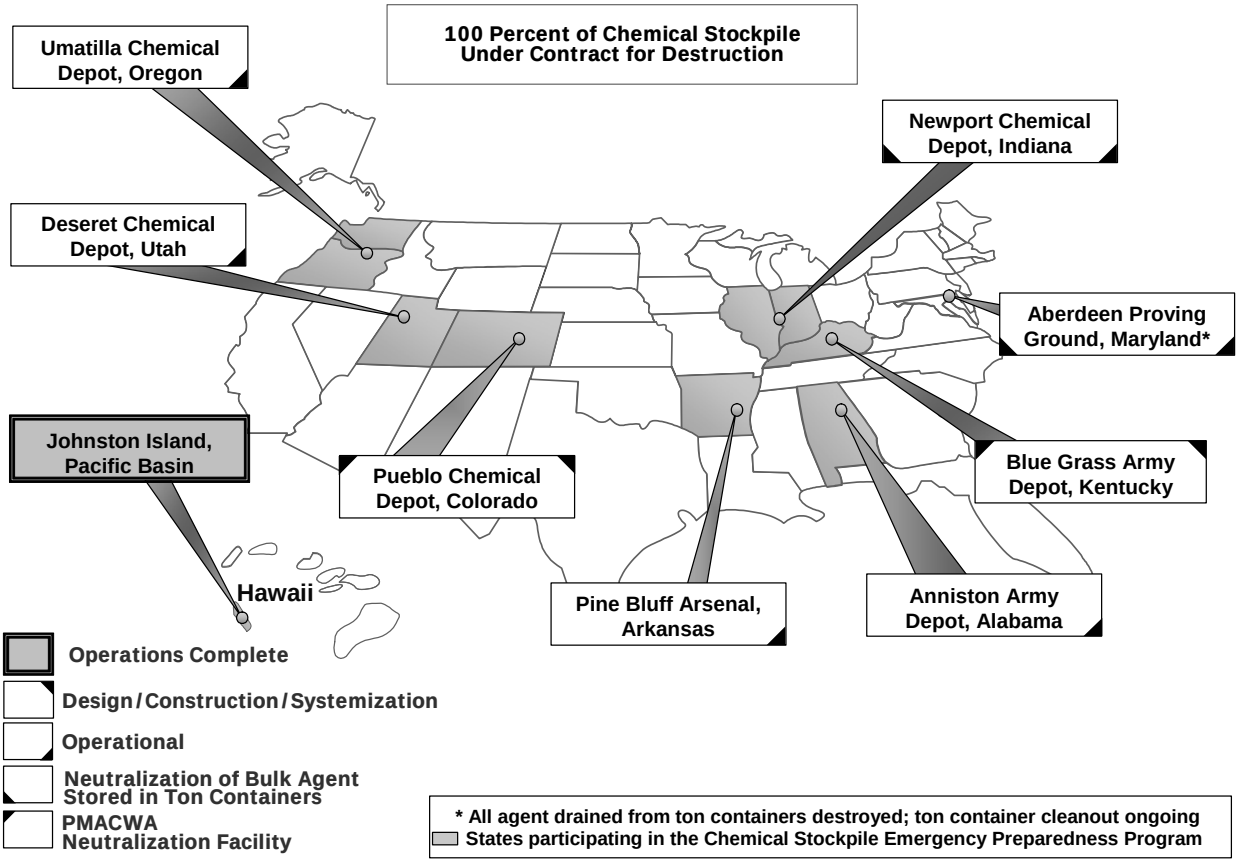
CMA continued to prepare for verification requirements mandated by the CWC. This preparation included hosting coordination meetings, developing required documentation and training guides, sharing lessons learned from operational disposal facilities, and preparing facility-specific technical documentation. It also included conducting pre-inspection meetings, engineering reviews, and exercises to prepare for CWC inspections.

FY 2006 Planned Activities

Programmatic support for meeting the requirements of the CWC will continue throughout FY 2006. The U.S. Army will continue to prepare the necessary documentation and provide support for OPCW inspections at U.S. chemical storage, disposal, and former production facilities.

III. CHEMICAL STOCKPILE DISPOSAL

National Chemical Stockpile Distribution by Storage Location



Note: Unless annotated, destruction technology is incineration.

During FY 2005, CMA destroyed approximately 1,796 U.S. tons of chemical agent (5.7 percent) out of the original United States stockpile of 31,498 U.S. tons. As of September 30, 2005, the United States has destroyed a total of 11,655 U.S. tons (37.0 percent) of the original United States stockpile. CMA initiatives to address processing challenges include those outlined in the following paragraphs.

Mustard Processing Strategy

As reported previously, sampling and analysis of approximately one percent of the mustard TCs at DCD has determined that some mustard TCs are contaminated with various concentrations of mercury. This may be the case at UMCD as well. CMA is using a two-step approach to address this issue: implementing further sampling and analysis, which will help determine the exact extent of the mercury contamination, and addressing the specific issues that may arise with the analytical results.

Several technologies are currently under review, including the following:

- Using mercury process monitoring to adjust the processing feed rates
- Adjusting the pollution abatement system (PAS) operating conditions to increase mercury removal via the brine system
- Installing sulfur-impregnated carbon filters with high-efficiency particulate air filtration systems prior to the draft fans, which would reduce mercury in the off-gases
- Using a wash-out system to rinse the heel from the TCs.

M55 Rocket Task Force

Both Umatilla Chemical Agent Disposal Facility (UMCDF) and Pine Bluff Chemical Agent Disposal Facility (PBCDF) experienced several fires while processing drained nerve agent GB M55 rockets during FY 2005. Each of the fires occurred when a section of a rocket ignited and burned during the shearing process in the explosive containment room (ECR), which is designed specifically to contain such events and is capable of withstanding explosive forces many times greater than those resulting from the detonation of a single rocket. Other CDFs have experienced similar fires during rocket processing. In all cases, when a fire occurred, the systems and safeguards designed into the facility, and the ECR in particular, functioned as intended. In addition, workers trained for such incidents followed safety protocols. There was never any danger to personnel or any release of agent to the environment.

CMA formed a rocket task force to conduct an in-depth investigation into the fires that occurred during FY 2005. The task force consists of members from the DA, Sandia National Laboratories, Centers for Disease Control and Prevention (CDC), Washington Group International (WGI), and the Washington Demilitarization Company. As part of this investigation, workers at UMCDF and PBCDF shipped the motors from 18 GB M55 rockets to the U.S. Army Armament Research, Development, and Engineering Center at Picatinny Arsenal, New Jersey, for analysis. This analysis is complete and a draft report is expected in January 2006. The U.S. Army Corps of Engineers (USACE) recertified the structural integrity of the ECR. In addition, WGI conducted a risk assessment of the ECR rocket fires that determined these incidents resulted in no measurable increase in public risk from disposal operations.

Deseret Chemical Depot, Tooele Chemical Agent Disposal Facility, and Chemical Agent Munitions Disposal System, Utah

Highlights

During FY 2005, the Tooele Chemical Agent Disposal Facility (TOCDF) destroyed 533 spray tanks and 22,690 M23 land mines that contained approximately 487 U.S. tons of nerve agent VX. On June 3, 2005, TOCDF completed destruction of the nerve agent VX stockpile stored at DCD. All GB and VX nerve agent that was stored at DCD has now been destroyed, resulting in a 99 percent risk reduction from chemical stockpile storage at this location.

TOCDF Operations

TOCDF began FY 2005 destroying nerve agent VX spray tanks and preparing for VX M23 land mine disposal. The Operational Readiness Review (ORR) for land mine disposal occurred in October 2004. TOCDF processed land mines from December 2 to December 14, 2004, in parallel with spray tanks, to test mine processing parameters. Once the land mine testing was completed, focus shifted back to processing only VX spray tanks. TOCDF completed processing of VX spray tanks on December 31, 2004, and resumed disposal of the remaining VX M23 land mines, the last munition type in the VX campaign.

Difficulties that slowed processing during the VX land mine campaign included jamming of the Deactivation Furnace System (DFS) heated discharge conveyor; safely handling a significant number of potentially contaminated mine storage drums; and cleaning up contamination in the explosive containment vestibules (ECVs) that occurred while unpacking leaking mines. TOCDF processed the last VX land mine on June 3, 2005, completing disposal of the DCD VX stockpile. All GB and VX nerve agents that were stored at DCD have now been destroyed.

In addition to destroying chemical stockpile munitions, TOCDF completed destruction of 18 VX test cylinders that were transferred from Dugway Proving Ground (DPG), Utah, on February 7, 2005. During September 2005, TOCDF also destroyed the contents of 12 VX *in situ* hydrolysate TCs.

At the end of FY 2005, TOCDF was performing changeover to mustard agent operations. An extended maintenance outage on the Metal Parts Furnace (MPF) was completed and the MPF was used to process contaminated secondary wastes. Decontamination efforts of the process areas are in progress. Mustard strategy implementation to address potential issues with mercury-contaminated agent in TCs and projectiles is ongoing. Several initiatives are underway to ensure compliance with emissions rules and optimization of processing options. CMA projects the fourth quarter of FY 2006 for the start of mustard agent operations.

Environmental Compliance

All necessary permit requirements have been met and maintained, and entailed no further action during FY 2005. Permit modifications are being developed to address changes that may be necessary to resolve potential issues with the mustard campaign.

Following an inspection at the Chemical Agent Munitions Disposal System (CAMDS) in late September 2005, the Utah Department of Environmental Quality (UDEQ) notified the DCD commander of several violations related to chemical agent monitoring at the facility. CMA is taking these issues seriously and is working to correct any deficiencies.

Chemical Stockpile Safety

The remainder of the chemical stockpile at DCD continues to be stored safely. During FY 2005, two leaking munitions and overpack containers were identified at DCD and 112 at TOCDF for a total of 114 (see the summary table in appendix B). Leakers were handled in accordance with chemical surety procedures and there was no release of chemical agent to the environment. Ongoing disposal has resulted in a 99 percent overall reduction of public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical munitions and agents at DCD by the end of FY 2005.

Public Outreach

During FY 2005, the DCD public affairs team distributed information regarding disposal of the one-millionth munition, attainment of the 50 percent agent tonnage destruction milestone, and completion of the VX agent disposal campaign at TOCDF. The team is now preparing information materials for the upcoming mustard campaign.

Chemical Stockpile Emergency Preparedness

Emergency preparedness continued with a high degree of cooperation among stakeholders. The chemical activity has all CSEPP enhancements in place and is in sustainment. The DCD Command staff received media spokesperson training on May 17, 2005. The annual CSEPP exercise took place on September 14, 2005, with reduced participation due to federal, state, and local response efforts to Hurricane Katrina. On- and off-post emergency responders received and were trained on the use of an atmospheric dispersion model for predicting downwind hazard distances, the D2-Puff version 5.5, which enhances hazard prediction capabilities. Tooele County is in the process of establishing a new Joint Information Center (JIC) that will be easier for the media to access than the current JIC, which is on Tooele Army Depot. Throughout the year, community emergency preparedness was maintained with the upgrading of several sirens and refurbishment of an off-post mobile decontamination trailer. CSEPP funds also were used to equip on-post ambulances with radios that allow communication with the off-post medical, security, and fire organizations. A robust training program was maintained for emergency responders.

Operations at the Chemical Agent Munitions Disposal System

CAMDS processed 6,792 nerve agent GB-contaminated demilitarization protective ensemble (DPE) suits during FY 2005, using the Materiel Decontamination Chamber. CAMDS also segregated and processed secondary waste in the MPF.

CAMDS is undergoing partial closures as processing units become available and have no future use. CMA is identifying requirements for basis of developing a closure plan for submittal to the UDEQ by the first quarter of FY 2008.

Incidents

During FY 2005, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*). There were four Category I chemical events at Utah facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

During FY 2006, TOCDF is scheduled to process secondary waste from the GB and VX campaigns, conduct maintenance activities and changeover to mustard agent operations, and initiate the start of mustard disposal operations.

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Anniston Chemical Activity and Anniston Chemical Agent Disposal Facility, Alabama

Highlights

Anniston Chemical Agent Disposal Facility (ANCDF) continued destruction of chemical weapons during FY 2005, completing three munitions campaigns, destroying 1,645 nerve agent GB M55 rockets, 16,026 GB 8-inch projectiles, and 9,600 GB 155mm projectiles. In addition, ANCDF destroyed 13,863 GB 105mm projectiles. Processed munitions during FY 2005 contained approximately 168 U.S. tons of nerve agent GB.

On December 1, 2004, the Commanding General, AMC, presented the Army Superior Unit Award to the Anniston Chemical Activity commander, citing "meritorious performance of a difficult and challenging mission" in the startup of the ANCDF.

ANCDF Operations

ANCDF reached a major milestone on October 29, 2004, by successfully completing the GB M55/M56 rocket campaign with the processing of the last overpacked gelled/crystalline leaker rocket. Following a changeover period and successful completion of the Integrated Operations Demonstration on December 4, 2004, ANCDF began processing GB 8-inch projectiles on December 9, 2004.

During the shakedown period in preparation for the MPF agent trial burns (ATBs), ANCDF gradually increased projectile processing rates before conducting the ATBs from March 13 to 25, 2005. The Alabama Department of Environmental Management (ADEM) subsequently directed ANCDF to delay processing the remaining approximately 2,400 GB 8-inch projectiles until analysis of the ATB samples and receipt of the ATB report. The remaining 8-inch projectiles were retained in case ADEM would request any subsequent analysis requiring another ATB.

During the time ADEM reviewed the ATB results, ANCDF processed secondary waste and destroyed 155mm GB projectiles, completing that projectile campaign on June 1, 2005. ADEM approved the ATB report on June 23, 2005. ANCDF resumed destroying GB 8-inch projectiles on June 27, 2005, and completed this effort on July 17, 2005. Following required modifications to processing equipment, ANCDF began its final GB agent munitions campaign, GB 105mm projectiles, on July 23, 2005. This campaign is ongoing.

Environmental Compliance

All necessary permit requirements have been met and maintained, and entailed no action during FY 2005.

Chemical Stockpile Safety

The remainder of the chemical stockpile at ANAD continues to be stored safely. During FY 2005, 10 leaking munitions and overpack containers were identified at ANAD and 4 at ANCDF for a total of 14 (see summary table in appendix B). Leakers were handled in accordance with chemical surety procedures and there was no release of chemical agent to the environment. Completion of GB M55 rocket disposal and ongoing destruction of GB-filled projectiles has resulted in a 38 percent reduction of public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical munitions and agents at ANAD at the end of FY 2005. As disposal operations continue, such risk at ANAD will be further reduced. The main risk driver in the remaining chemical stockpile at ANAD is the potential for auto-ignition of VX M55 rockets due to lightning strike or earthquakes. CMA has completed mitigation activities to address this issue, including placement of dielectric barriers in storage igloos, as well as reduction of stack height and banding of rocket pallets.

Public Outreach

During FY 2005, the ANCDF public affairs team distributed information on completion of GB M55/M56 rocket disposal and two years of successful disposal operations. The team is currently coordinating events surrounding the upcoming end of GB processing milestone, and continues to regularly provide ANCDF project updates to area civic groups/organizations, churches, and schools.

Chemical Stockpile Emergency Preparedness

The chemical activity has all CSEPP enhancements in place and is in sustainment. The Anniston CSEPP Integrated Product Team continues as the critical focal point for successful resolution of emergency preparedness issues. The ANAD Emergency Operations Center (EOC), which continuously monitors all activities on the post and has the mission of alerting civilian authorities of any potential problems, was over-pressurized and remodeled. The annual CSEPP emergency response exercise took place on February 9, 2005. Community emergency preparedness was maintained with efforts under way to replace the aging 800 megahertz radio system, a communication asset crucial to community preparedness.

Incidents

During FY 2005, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*). There were three Category I chemical events at Alabama facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

During FY 2006, ANCDF will complete processing of the GB 105mm projectiles, which will complete disposal of the nerve agent GB stockpile at ANAD. Start of VX disposal operations is anticipated to begin in FY 2006, following a changeover period.

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Umatilla Chemical Depot and Umatilla Chemical Agent Disposal Facility, Oregon

Highlights

UMCDF continued destroying chemical weapons during FY 2005, destroying 30,867 M55 rockets and 12 MC-1 bombs, which contained 166 U.S. tons of nerve agent GB.

UMCDF Operations

UMCDF began FY 2005 implementing its operations ramp-up plan, gradually increasing GB M55 rocket processing rates using a deliberate process, evaluating safety, environmental compliance, and performance criteria for all crews at each step. Agent drained from the rockets was stored in tanks until a sufficient amount had been collected to begin processing the agent through the Liquid Incinerator (LIC). Destruction of this stored agent began on October 17, 2004.

UMCDF encountered difficulties maintaining sustained daily processing due to issues including DFS heated discharge conveyor jams and problems with the agent collection system. These issues resulted in a slower ramp-up than originally planned. These issues have since been addressed and the number of jams has decreased, resulting in stabilization of processing rate.

On February 3, 2005, destruction operations were stopped after a malfunction on the rocket B-line caused the blast gate between the ECV and the ECR to close on a rocket and sever the fuse. The Explosive Ordnance Disposal (EOD) Team determined that the situation was safe for UMCDF personnel to recover the fuse and clear the line. The rocket's agent cavity was not compromised. Processing was halted while a root cause investigation was conducted and corrective actions implemented. Destruction operations resumed on February 10, 2005.

UMCDF experienced five fires while processing drained GB-filled M55 rockets. The first fire occurred on November 17, 2004, and was followed by four additional fires occurring on April 7, April 23, May 18, and July 29, 2005. Each fire occurred when a section of a rocket ignited and burned during the shearing process in the ECR, which is designed specifically to contain such events. The fire suppression system activated, minimizing damage. The Oregon Department of Environmental Quality (ODEQ) issued a stop-work order following the May 18, 2005, fire, pending completion of a review and root cause analysis. Processing resumed on June 9, 2005, after the U.S. Army Corps of Engineers recertified the structural integrity of the ECR and ODEQ lifted the stop-work order, concluding that the ECR was capable of containing such incidents and that there was little danger of the fire spreading to other areas of the facility. CMA has formed a task force to investigate M55 rocket fires.

UMCDF successfully completed the DFS and LIC GB ATBs on July 9 and July 23, 2005, respectively. Approval of the reports by ODEQ is pending. On September 27, 2005, UMCDF began disposal of GB MC-1 bombs, the second munition

type to be destroyed at the facility. As of September 30, 2005, UMCDF has destroyed six MC-1 bombs.

Environmental Compliance

All necessary permit requirements have been met and maintained and entailed no action during FY 2005.

In May 2005, the ODEQ issued a Notice of Noncompliance to UMCDF for improper labeling of hazardous waste containers and failure to keep hazardous waste containers closed. The subject containers were addressed immediately and the situation rectified.

Chemical Stockpile Safety

The remainder of the chemical stockpile at UMCD continues to be stored safely. During FY 2005, 20 leaking munitions and overpack containers were identified at UMCD (see summary table in appendix B). Leakers were handled in accordance with chemical surety procedures and there was no release of chemical agent to the environment. Ongoing disposal operations have resulted in a 30 percent reduction of public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical munitions and agents at UMCD at the end of FY 2005. The potential of an earthquake causing such an event remains the dominant risk driver at this location.

Public Outreach

During FY 2005, the UMCDF and UMCD public affairs team supported ramp-up of agent disposal operations, conducted an outreach campaign to address concerns over the M55 rocket fire occurrences, and the first-year anniversary of agent operations, focusing on reduction of public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical munitions and agents at UMCD, achieved by ongoing disposal operations.

Chemical Stockpile Emergency Preparedness

The chemical activity has all CSEPP enhancements in place and is in sustainment. The Umatilla CSEPP community began officially using D2-Puff 5.5 in April 2005. Media training for Army and civilian spokespersons was held on October 12 and 13, 2004. The annual CSEPP exercise was conducted on May 10, 2005, at UMCD.

Incidents

During FY 2005, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*). There were 12 Category I chemical events at Oregon facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

During FY 2006, UMCDF will continue destroying GB M55 rockets and bombs, as well as four GB TCs transferred from the NSCMP.

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Pine Bluff Chemical Activity and Pine Bluff Chemical Agent Disposal Facility, Arkansas

Highlights

During FY 2005, PBCDF began chemical weapon destruction operations on March 28, 2005, with the delivery of initial M55 rockets, the first of which was destroyed on March 29, 2005. During FY 2005, PBCDF processed 19,819 M55 rockets, which contained 106 U.S. tons of nerve agent GB.

PBCDF Operations

On December 26, 2004, the Secretary of Defense notified Congress of the intention to begin operations at PBCDF. PBCDF completed closeout of the remaining ORR and AMC Surety Visit Category I findings in March 2005. Operations began with the transportation of the first nerve agent GB M55 rockets to the facility on March 28, 2005. The first GB M55 rocket was subsequently destroyed on March 29, 2005. PBCDF is carefully ramping up M55 rocket processing rates using a deliberate process, in preparation for the DFS and LIC ATBs, which are currently scheduled to begin in the first quarter of FY 2006. With 19,819 GB M55 rockets processed as of September 30, 2005, PBCDF has performed better than TOCDF, ANCDF, and UMCDF, which processed 11,472, 18,124, and 6,809 GB rockets, respectively, in the first 186 days of operations.

PBCDF experienced three fires while processing drained GB M55 rockets in the ECR on May 11, May 22, and August 13, 2005, with only minimal impact. These fires presented no danger to personnel or of any release of agent to the environment. Necessary repairs were made and operations continued. The site is assessing ways to further reduce the possibility for such fires to recur. CMA has formed a task force to investigate M55 rocket fires.

On July 8, 2005, PBCDF suspended destruction operations for a plant-wide surety stand-down after the Systems Contractor (SC) reported to CMA that two chemical surety badges had been misused. CMA, the SC's corporate office, and site management defined and set into motion corrective actions that included immediate surety stand-downs and retraining for all crews. PBCDF resumed operations on July 27, 2005, following the completion of personnel retraining.

PBCDF has encountered difficulties maintaining staffing levels. The SC is working to mitigate staffing shortfalls through employee retention incentives, relocation of employees from company projects experiencing a surplus, and pre-hire health screens. The staffing situation is slowly improving as a result of the mitigation strategies implemented.

Environmental Compliance

An Environmental Impact Statement update was completed during FY 2005. All necessary permit requirements have been met and maintained, and entailed no action during FY 2005.

Chemical Stockpile Safety

The chemical stockpile at PBA continues to be stored safely. During FY 2005, there was one leaking munition identified at PBA (see summary table in appendix B). The leaking munition was handled in accordance with chemical surety procedures and there was no release of chemical agent to the environment. Ongoing disposal operations have resulted in a nine percent reduction of public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical munitions and agents at PBA at the end of FY 2005. The potential of a lighting strike causing such an event through auto-ignition of M55 rockets remains the dominant risk driver at this location and has been mitigated through the placement of dielectric barriers in storage igloos.

Public Outreach

The PBCDF public affairs team supported the start of chemical agent disposal operations via a coordinated public outreach program and media relations campaign, as well as distributed information regarding the M55 rocket fire occurrences and stockpile storage issues. The start of chemical agent operations at PBCDF was widely covered by local and national media.

Chemical Stockpile Emergency Preparedness

The chemical activity has all CSEPP enhancements in place and is in sustainment. PBA conducted a depot-wide evacuation and emergency preparedness exercise on October 6, 2004, in which about 1,100 non-essential personnel were evacuated to two different sites in Pine Bluff for two hours. The Arkansas CSEPP community conducted the annual exercise on March 16, 2005.

Incidents

During FY 2005, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*). There were four Category I chemical events at Arkansas facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

PBCDF will continue destroying nerve agent GB M55 rockets during FY 2006. A planned four-month shutdown is scheduled to begin in December 2005, to replace the fiberglass-reinforced piping in the furnaces' PAS.

Edgewood Chemical Activity and Aberdeen Chemical Agent Disposal Facility, Maryland

Highlights

The Aberdeen Chemical Agent Disposal Facility (ABCDF) completed draining of TCs and neutralization of the drained mustard agent on March 11, 2005, eliminating the risk from chemical stockpile storage at this site. During FY 2005, the facility drained 982 TCs and neutralized approximately 869 U.S. tons of mustard agent. TC cleanout (TCC) operations began on January 7, 2005, and ABCDF has processed 927 TCs as of September 30, 2005. A total of approximately 5,028,252 gallons of hydrolysate have been shipped to the contracted offsite treatment facility. With the chemical weapons stockpile at this site destroyed, the Edgewood Chemical Activity (ECA) office was closed during FY 2005 and the Maryland CSEPP was terminated at the end of the FY.

ABCDF Operations

During FY 2005, ABCDF achieved its designed operational throughput rate for draining mustard agent TCs and neutralizing mustard agent. On March 11, 2005, the last batch of neutralized agent from the final TC was transferred to an outside storage tank. All TCs have been removed from the chemical agent storage yard, drained, and the agent neutralized.

TCC Operational Proficiency Demonstration activities were conducted during early FY 2005 and TCC operations began on January 7, 2005. As of September 30, 2005, a total of 927 TCs have been cut and cleared from the production line. After the cut-and-clean process is completed, the TCs are shipped to Rock Island Arsenal (RIA), Illinois, for further treatment and recycling. As of September 30, 2005, 907 TCs have been shipped to RIA.

The supplemental decontamination unit and hot water decontamination unit began treating secondary waste on March 1 and 14, 2005, respectively. ABCDF is in the process of procuring steam treaters to support secondary waste processing and closure activities. As of September 30, 2005, ABCDF had shipped 1,040 drums (68,305 pounds) of secondary agent-related waste monitored above 1.0 short-term exposure limit to a contracted offsite treatment, storage and disposal facility (TSDF). Initial closure planning activities are ongoing. A modification to the current systems contract is planned for ABCDF closure.

Environmental Compliance

ABCDF submitted a draft permit for an expanded secondary waste storage area on June 23, 2005. The public comment period ended on August 22, 2005. A major permit modification application for treatment of ABCDF secondary waste via a steam autoclave system was submitted on April 11, 2005.

Chemical Stockpile Safety

All chemical agent stored at APG-EA has been drained and neutralized, eliminating all public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical agent at this site.

Public Outreach

CMA and ECA held a ceremony on May 30, 2005, to celebrate completion of the TC draining and agent neutralization at the site. Attendees included officials from federal, state, and local government, as well as citizen groups. The ABCDF public affairs team commemorated the completion of mustard agent neutralization by distributing information products and conducting worker and community events. The team also communicated with stakeholders regarding TCC operations, secondary waste shipments, and ECA closeout ceremonies. The Edgewood, Maryland, public outreach office was closed in FY 2005, after eight years of successfully serving the community.

Chemical Stockpile Emergency Preparedness

No CSEPP exercise was held at APG-EA in FY 2005, due to the elimination of public risk. Closeout issues, such as disposition of personnel and disposal of property, dominated the year's activities.

Incidents

During FY 2005, there were two Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*):

a. Mustard agent low-level detection in drain station. On November 6, 2004, low-level mustard agent vapor was detected in the drain station room while operators were removing the E001 kit from the rear of the glovebox. (An E001 kit is a containment device placed over the end of a leaking TC.) The operators double-bagged the kit and sealed the protective bag before removing the encapsulated kit from the glovebox. Upon finishing the procedure, the operators removed their respirators, noticed an odor, and evacuated the drain station. The MINICAMS® alarm sounded immediately after operators exited the room, indicating that agent vapor had dispersed into the room from the sealed bag. The medical clinic staff evaluated the operators and found no symptoms of agent exposure. No agent was released outside engineering controls.

b. Torn glove during draining operations. On November 11, 2004, an operator punctured his left glove while performing draining operations in a drain station. The operator sustained a minor puncture wound and was subsequently treated at the medical clinic. The operator was not sure whether the puncture resulted from a glass shard adhering to his glove, a metal burr from a valve handle, or the quick-disconnect he was preparing to operate. Glass fragments were handled during a broken sight glass cleanup effort performed immediately prior to this incident. Subsequent inspections of the glovebox did not identify any metal burrs

or sharp edges, which may have lead to this failure. The medical clinic evaluated the operator and, finding no symptoms of agent exposure, cleared him to return to work.

There were three Category I chemical events at Maryland facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

ABCDF will complete TCC operations during FY 2006 and begin facility closure.

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Newport Chemical Depot and Newport Chemical Agent Disposal Facility, Indiana

Highlights

Newport Chemical Agent Disposal Facility (NECDF) began chemical agent neutralization operations on May 5, 2005. As of September 30, 2005, a total of 28 TCs have been drained, approximately 20 tons of agent have been neutralized, and 26 TCs have been processed through the decontamination facility.

NECDF Operations

On April 5, 2005, the Secretary of Defense notified Congress of the intention to begin operations at NECDF. Systemization had been completed with a successful Integrated Plant Run in February 2004. On May 5, 2005, NECDF began controlled startup of chemical agent neutralization operations with the draining of a nerve agent VX TC, the first of 1,690 to be processed at the facility. Caustic wastewater (hydrolysate) is being stored in leased containers in anticipation of contract award for offsite treatment and disposal.

At the request of the New Jersey and Delaware Congressional delegations, the CDC and EPA Region II conducted a review of the U.S. Army's proposed approach to ship the hydrolysate offsite for treatment and disposal at a contracted TSDF, potentially in New Jersey. In November 2004, Congressional members requested that the CDC also include additional analyses of the proposed treatment process before issuing its report.

The CDC submitted its report to Congress on April 5, 2005. That same day, DoD notified Congress of its intent to begin chemical agent neutralization operations at NECDF. The plan for hydrolysate disposal remains shipment to a TSDF, contingent upon resolution of concerns raised by the CDC report. Alternative hydrolysate disposal options will be considered in the event that concerns from the report cannot be resolved.

Installation of the TC Line-Enhanced Steam Decontaminator structure, walls, and equipment at NECDF was completed in November 2004. Systemization was completed with a successful Integrated Plant Run demonstration in February 2005. TCC operations began on June 6, 2005.

On June 10, 2005, NECDF suspended operations following a valve malfunction within the toxic containment area (detail provided under Incidents). Corrective actions were implemented. During the subsequent operational pause, a hydrolysate analysis demonstrated a flashpoint that constituted a classification of the hydrolysate as flammable. A study of possible causes and mitigation options determined that the flammability characteristics could be eliminated by adjusting neutralization processing procedures. These process adjustments were made and the flammability characteristic successfully eliminated. Neutralization operations resumed on August 26, 2005.

Environmental Compliance

NECDF initiated discussions with the Indiana Department of Environmental Management to obtain a permit modification for increased hydrolysate storage capacity.

Chemical Stockpile Safety

The chemical stockpile at NECD continues to be stored safely. Ongoing disposal operations have resulted in a two percent overall reduction of public risk stemming from the potential for a low probability, high-consequence accident associated with the storage of chemical agent at NECD by the end of FY 2005. There are no new or outstanding safety issues regarding chemical stockpile storage at NECD.

Public Outreach

The NECDF public affairs team developed and implemented a comprehensive stakeholder communications program about the start of agent VX disposal operations in May 2005. This included public meetings and community leadership briefings regarding shipment and treatment of the caustic wastewater byproduct of processing. A work force survey led to development of an "Ambassador Program" to guide worker communication in the community and ensure CMA key messages were reinforced.

Chemical Stockpile Emergency Preparedness

Cooperation between the U.S. Army, DHS-FEMA, and the local community continued to be successful in addressing emergency preparedness issues. The annual CSEPP exercise took place on June 8, 2005. The chemical activity has all CSEPP enhancements in place and is in sustainment. Enhancements include purchase of additional warning sirens, reader boards, and personal protective equipment (PPE). The D2-Puff version 5.5 hazard prediction model was installed in the Newport CSEPP community to provide enhanced hazard modeling capabilities. In FY 2005, NECD became the first CSEPP site to use a mobile JIC, with the primary JIC as a combined unit to expand the capability to communicate with the public and the media in an emergency. An advertising campaign to keep the public informed of what protective actions to take in an emergency continued in FY 2005.

Incidents

During FY 2005, there was one Category II chemical event (defined in accordance with AR 50-6, *Chemical Surety*):

> *Valve Malfunction.* On June 10, 2005, a valve malfunction occurred within the Toxic Cubicle (TOX) at NECDF, which left approximately 30 gallons of nerve agent VX and hydrolysate on the sealed concrete floor. At the time, the facility was in the process of feeding the agent reactors to neutralize 180 gallons of agent VX. The TOX is the area of the plant where the actual neutralization of the agent occurs and is maintained under primary engineering controls. Agent feed was stopped according to operating procedures, and personnel in DPE cleaned

and decontaminated the area. There was no release of agent to the environment and no agent exposures of personnel. All valves of the type involved have been replaced with ball valves.

There was one Category I chemical event at Indiana facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

NECDF is scheduled to continue TC draining and agent neutralization, as well as TCC operations in FY 2006. CMA will continue to pursue offsite treatment and disposal of hydrolysate consistent with the findings of the final CDC/EPA report.

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Pueblo Chemical Depot and Pueblo Chemical Agent-Destruction Pilot Plant, Colorado

Highlights

The Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) is currently in the design phase. Preparations for Stage I construction are ongoing.

Design

As reported previously, based on the draft findings from a DoD Inspector General audit of the PCAPP project (discussed under Program Reviews), DoD directed on September 14, 2004, that design of the PCAPP process buildings be suspended and that trade studies be conducted to identify areas that could potentially decrease the LCC of PCAPP. PMACWA completed the trade studies in June 2005 and the results were incorporated into a revised design path forward that was approved by the USD(AT&L) on July 22, 2005. The DoD authorized the resumption of design effort on June 24, 2005, and PMACWA initiated a redesign effort aimed at meeting a stringent LCC target and schedule and performance objectives while maximizing safety, security, and the opportunity to achieve the 100 percent CWC destruction deadline. The SC is currently working on the 60 percent redesign. The 60 percent redesign is scheduled for submission in the second quarter of FY 2006.

Preparations for Stage I construction are ongoing. Stage I construction includes soils and concrete testing, surveying and civil testing, perimeter fencing, and construction of the access control point and northwest passage road. Initial Stage I construction activities began with the award of subcontracts for the soils and concrete testing in June 2005, surveying and civil testing in July 2005, and perimeter fencing in August 2005.

Environmental Compliance

On December 13, 2004, the Pueblo Certificate of Designation application for Stage II construction was submitted. Stage II construction includes construction of non-process structures such as utility, control and support, multipurpose and laboratory buildings. The certificate of completeness was issued on May 2, 2005, and approved on June 14, 2005. The PCAPP Resource Conservation and Recovery Act (RCRA) research, development, and demonstration Class III permit modification for Stage II construction was approved by the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division on June 23, 2005, and became effective on July 23, 2005. In addition, the Air Construction permit for Stage I construction was received on May 23, 2005.

Chemical Stockpile Safety

The chemical weapons stockpile at PCD continues to be stored safely. During FY 2005, 16 leaking munitions or overpack containers were identified at PCD (see summary table in appendix B). Leakers were handled in accordance with chemical

surety procedures and there was no release of chemical agent to the environment. The remote possibility of an earthquake causing a low probability, high-consequence accident associated with the storage of chemical munitions and agents remains the dominant driver of risk to the public at this location. Mitigation measures such as reduced stack height of munitions and banding of pallets are being implemented.

Public Outreach

The PCAPP public affairs team developed and executed a plan to obtain community input for PCAPP redesign efforts. Public involvement activities included meeting weekly with the CAC's Design Options Working Group and its subcommittees. Additionally, three public availability sessions, jointly sponsored by the CAC, were conducted in the cities of Pueblo and Avondale and the Town of Boone, all located in Pueblo County, Colorado, to reach out to broader stakeholder groups including rural communities, migrant workers, retired and Hispanic populations, and the blue collar work force. Outreach efforts were also implemented, using tools such as briefings to community leaders and mailers with postage-paid feedback forms. As a result of these collective efforts, the CAC adopted a community recommendation to PMACWA based on public comment. The recommendations provided community support for the proposed offsite shipment of dunnage and energetics, but opposition to offsite shipment of agent hydrolysate. These recommendations were included in program briefings to Defense Department decision-makers.

Chemical Stockpile Emergency Preparedness

The chemical activity has all CSEPP enhancements in place and is in sustainment. Cooperation among the U.S. Army, DHS-FEMA, the State of Colorado, and local governments continued to be excellent. The annual CSEPP exercise took place on April 20, 2005. On- and off-post emergency response personnel received and were trained on use of the D2-Puff version 5.5 hazard prediction model, which enhanced modeling capabilities. Community emergency preparedness was also enhanced by several improvements to communications systems: on-post radios were replaced; a new 180-foot radio tower was installed on the depot to improve communications for emergency responders in eastern Pueblo County; a video teleconferencing system was acquired for the depot; and a fiber-optic hotline was installed between the depot EOC and Pueblo County's 911 Center. CSEPP funds also were used to make improvements to the depot EOC and to obtain additional PPE. A robust training program was maintained for emergency responders. Spokesperson crisis communication training was provided for on- and off-post officials on March 29 and 30, 2005.

Program Reviews

The USD(AT&L) requested that the DoD Inspector General audit the PCAPP project because of concern over the increase in the size and LCC of the planned facility. The purpose of the audit was to determine deficiencies in the PCAPP acquisition process, determine what acquisition lessons can be learned from the experience, and determine what actions can be identified to ensure the Department complies with the

intent of the congressional certification required by PL 105-261. The final audit report, *Pueblo Chemical Agent-Destruction Pilot Plant Project*, Report Number D-2005-009, was released on November 1, 2004. The audit report made several recommendations: that the USD(AT&L) recertify the PCAPP project to Congress; revise the ADM to PMACWA, emphasizing the need to keep the PCAPP project within the baseline costs; and require the Program Manager to attend the statutorily required Program Manager course at the Defense Acquisition University. The report also recommended that PMACWA use the industrial engineering analysis to be performed by the NRC to determine the appropriate square footage needed for the facility; remove public outreach and involvement responsibilities from the systems contract; submit a systems engineering plan for the milestone decision authority's approval; request that the Contracting Officer, U.S. Army Field Support Command, revise the contract scope of work to require the SC to submit an acquisition logistics plan and a software management plan for approval; and task the SC to adhere to its contract requirements to submit configuration management, quality management, and information assurance and systems security plans. To address these recommendations, PMACWA tasked the SC to develop a revised design for PCAPP that balances cost, schedule, and performance objectives with a cost target of $1.5 billion (FY 2002 constant dollars), the NRC completed two independent evaluations pertaining to the PCAPP project, the scope of the systems contract was modified to remove the management of the Pueblo Outreach Office, and PMACWA is working with the Office of the USD(AT&L), Defense Systems, on the development of a systems engineering plan. In addition, the SC has submitted the configuration management plan and quality management plan, and will submit the acquisition logistics, software management, information assurance and systems security plans with the final design package during the second quarter of FY 2007.

The NRC report, *Interim Design Assessment for the Pueblo Chemical Agent Destruction Pilot Plant,* published in January 2005, provides an interim assessment of PCAPP to permit adjustment of any significant problems as soon as possible. In addition, the report presents an analysis of the issues regarding the current PCAPP design, as well as findings and recommendations to reduce concerns and increase public involvement in the design process. The NRC found that PCAPP can effectively and safely destroy the chemical agent and the energetic materials in the chemical munitions at PCD. Energetics processing would be greatly facilitated through reconfiguration of munitions and shipment of energetic materials not contaminated with chemical agent to offsite disposal facilities. The NRC cautioned that a prolonged systemization period would likely be necessary to ensure smooth operation of the facility as an integrated unit. Finally, the NRC pointed to the need and opportunity for continued public involvement in the project.

The NRC letter report, *Review and Assessment of Proposals for Chemical Agent Destruction Pilot Plant at Pueblo, Colorado*, published in February 2005, finds that the Bechtel Pueblo Team proposal for PCAPP is viable given the design specifications stipulated in the request for proposal (RFP). The report further states that the committee found little opportunity for reducing cost or improving schedule in the SC's design unless major changes were made to the RFP requirements. The committee also identifies seven alternatives to the proposed design that could positively impact cost

and schedule but would require relaxation of some of the original DoD RFP requirements.

Incidents

During FY 2005, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*). There were five Category I chemical events at Colorado facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

During FY 2006, the design effort and Stage I construction activities will continue. Design activities will include the submission of the intermediate redesign in the second quarter of FY 2006 and Critical Design Review, Design Readiness Review, and approved revised program in the third quarter of FY 2006. Stage I construction activities will include the completion of soils and concrete testing, surveying and civil testing, perimeter fencing, and the start of construction of the access control point and northwest passage road.

Blue Grass Chemical Activity and Blue Grass Chemical Agent-Destruction Pilot Plant, Kentucky

Highlights

The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is currently in the design phase.

BGCAPP Design

Design activities continued at the BGCAPP during FY 2005. The Program Manager accepted the initial design in October 2004 and the intermediate design of the Munitions Demilitarization Building (MDB) in April 2005. Design Considerations Teams are investigating design options, which may reduce the overall LCC of the BGCAPP. The revised design path forward approved by the USD(AT&L) on July 22, 2005, incorporated the results of the design considerations. The SC is currently working on the intermediate redesign of the MDB and the Supercritical Water Oxidation (SCWO) intermediate design package.

Additionally, PMACWA has directed the SC to investigate alternate methods to separate M55 rocket motors to preclude processing of the motor in the BGCAPP. An expedited removal of the rocket motors at Blue Grass followed by conventional demilitarization of the uncontaminated items would mitigate any potential rocket motor stability issues. This is a precaution following M55 rocket fire incidents at UMCDF and PBCDF.

Environmental Compliance

The Kentucky Department of Environmental Protection (KDEP) issued the BGCAPP draft Research, Development, and Demonstration (RD&D) permit for public comment on July 13, 2005. The comment period ended on August 31, 2005. KDEP approved the RD&D permit on September 30, 2005, with an effective date of October 30, 2005. The Kentucky Division of Air Quality issued the BGCAPP draft Air Quality permit for public comment on June 16, 2005. The comment period ended on August 30, 2005. Approval of the Air Quality permit is expected in October 2005.

The *Findings of No Significant Impact (FONSI) for the Environmental Assessment for the Siting of the BGCAPP and Associated Access Road, Parking Areas, and Utilities at BGAD* was signed on September 15, 2005. This enables tree harvesting to occur on the area for the access road.

Chemical Stockpile Safety

The chemical stockpile at BGAD continues to be stored safely. During FY 2005, there were eight leaking munitions or overpack containers identified at BGAD (see summary table in appendix B). Leakers were handled in accordance with chemical surety procedures and there was no release of chemical agent to the environment. The potential of a lighting strike causing a low probability, high-consequence accident

associated with the storage of chemical munitions and agents remains the dominant risk driver at this location. Studies of options to address this issue, including placement of dielectric barriers, have been completed.

Public Outreach

The BGCAPP public affairs team focused its support on two primary issues: design consideration efforts and expedited removal of M55 rocket motors. Program staff met with the Chemical Destruction Community Advisory Board's Design Considerations Working Group to provide information to and obtain feedback on these issues. Additionally, teams conducted a public availability session, jointly sponsored by Blue Grass-area citizens' groups. This session provided information on design considerations and the expedited removal of rocket motors initiative to a broader audience, including community members and leaders, media, and other program partners. Outreach tools were also used, including mailers and briefings. Based on public comment, the board provided recommendations to PMACWA, which included endorsement of offsite treatment of secondary wastes, opposition to treating agent and energetic hydrolysates offsite, and a pledge to work together with the project if testing shows a need to pursue the rocket motor removal initiative.

Chemical Stockpile Emergency Preparedness

The chemical activity has all CSEPP enhancements in place and is in sustainment. Cooperation between the U.S. Army, DHS-FEMA, the Commonwealth of Kentucky, and local governments continued to be excellent. The annual CSEPP exercise took place on October 27, 2004. Community emergency preparedness was maintained with the replacement of expiring Mark 1 nerve agent antidote kits and was enhanced with additional PPE. The D2-Puff version 5.5 hazard prediction model was installed in the Blue Grass CSEPP community to provide enhanced hazard modeling capabilities. Spokesperson training was provided August 16 to 18, 2005, to on- and off-post officials who would deal with media.

Program Reviews

The NRC letter report, *Review and Assessment of Proposals for Chemical Agent Destruction Pilot Plant at Blue Grass*, published in May 2005, finds that opportunities exist for significant cost reductions in the construction phase, a major portion of the total LCC in the SC's design. The report notes that realizing these savings will require schedule extensions, which would increase operating costs and could affect operator safety due to longer operations and public safety due to increasing deterioration of munitions in prolonged storage.

Incidents

During FY 2005, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*). There were four Category I chemical events at Kentucky facilities. At no time was the community or the environment at risk of exposure to chemical agent.

FY 2006 Planned Activities

During FY 2006, the design effort will continue. Design activities will include the submission of the SCWO intermediate design package in the first quarter of FY 2006, as well as, submission of the intermediate redesign of the MDB, Critical Design Review, and Design Readiness Review in the third quarter of FY 2006, and approval of the revised acquisition program baseline in the fourth quarter of FY 2006.

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IV. NON-STOCKPILE CHEMICAL MATERIEL

During FY 2005, the Project Manager for Non-Stockpile Chemical Materiel (PMNSCM) pursued the following activities to safely destroy NSCM.

Recovery and Destruction of Chemical Warfare Materiel

PMNSCM supported activities to recover and destroy CWM at the following locations:

- *Spring Valley, Former Camp American University, Washington, District of Columbia.* PMNSCM-supported USACE remediation at the former Camp American University, Spring Valley, Washington, D.C. (formerly used defense site) was halted in August 2004, until the beginning of FY 2005 and the receipt of additional funding. Since remediation resumed on June 20, 2005, no suspect items have been recovered. Remediation is scheduled to be completed in the third quarter of FY 2006.

- *Schofield Army Barracks, Hawaii*. In December 2004, the USACE-Honolulu District initiated range clearance activities at the Schofield Army Barracks, Hawaii. Several items were recovered in the February to March 2005 time frame. These items are detailed in the following paragraphs:

  - On February 10, 2005, a suspect 8-inch Livens projectile was recovered. The projectile was assessed and found to be water-filled. The item was disposed of locally.

  - On March 4, 2005, a 155mm projectile was recovered. Assessment of the item determined the round to be an explosively configured phosgene (CG) munition. The item was overpacked and moved into secure storage. In coordination with Schofield Army Barracks and the State of Hawaii, PMNSCM decided to delay a disposal decision until all range clearance operations are completed. It is likely that the Explosive Destruction System (EDS) will be deployed to destroy this item.

  - On March 17, 2005, a suspect 8-inch Livens projectile was recovered. The projectile was assessed and found to be smoke-filled. The item was disposed of locally.

  - On March 30, 2005, a 4-inch Stokes mortar round was recovered. Assessment of the item determined it to be fired, armed and fuzed, with probable CG fill. Considering the item was fired, armed and fuzed, Schofield and local EOD personnel, in conjunction with the State of Hawaii, determined that the item should be immediately destroyed. The item was destroyed in place via open detonation on April 15, 2005.

  As of September 30, 2005, 181 suspect items have been identified and flagged for further analysis. Once full assessments are finished and the total number of

CWM items is determined, PMNSCM will coordinate with Schofield Army Barracks, USACE-Honolulu District, and the State of Hawaii to develop a disposal strategy.

- *Camp Barkeley, Texas.* On March 9, 2005, a 75mm projectile was recovered during construction clearance. The Mobile Munitions Assessment System (MMAS) Phase I System 2 was deployed to assess the item. Assessment of the projectile was completed on March 12, 2005, revealing the item to be a non-chemical, 75mm projectile, with partial fuze remnants and intact booster cup. The item was handed over to the 7th Civil Engineering EOD team from Dyess Air Force Base, Texas, for disposal.

- *Honolulu, Hawaii.* On March 16, 2005, 76 suspect chemical agent identification set (CAIS) vials were discovered at a private residence in Honolulu. Additionally, on March 17, 2005, another 30 suspect CAIS vials were recovered at a business location on Sand Island, Hawaii. PMNSCM immediately requested the dispatch of the 22nd Chemical Battalion to access and recover all items. All 106 items were transported to Wheeler Army Airfield, Hawaii, on March 21, 2005, where assessments determined that all the vials contained methyl bromide, a non-CAIS material. All items were turned over to the installation for disposal.

- *Fort Bragg, North Carolina.* On March 30, 2005, approximately 30 suspect CAIS items were uncovered at a new building site. Assessment indicated that 22 vials contained chemical agent (mustard or lewisite) and 8 vials contained industrial chemicals. Six of the eight industrial chemical-filled vials contained chloropicrin. All items were moved to a secure holding facility. An item assessment was conducted on April 4, 2005. Single CAIS Assessment and Neutralization System (SCANS)[1] operations to dispose of the CAIS items will most likely occur during the second quarter of FY 2006.

- *Francis E. Warren Air Force Base, Wyoming.* On April 26, 2005, a single K955 CAIS bottle was recovered during range clearance activities. The item was double-bagged and overpacked, and placed in a hazardous waste storage facility at the base. PMNSCM assumes that the item contains chemical agent and is working with the base to plan for additional investigation of the site under a chemical safety submission. (This particular type of CAIS contains agent impregnated on charcoal and cannot be successfully assessed via non-intrusive equipment.) At the conclusion of the remediation investigation, all CAIS items with chemical agent will be destroyed using the SCANS.

- *Milford, Delaware.* On May 27, 2005, a 75mm shell was recovered at a clam shell processing company. Initial onsite assessment revealed the projectile to be intact with a liquid fill. The initial assessment of the item allowed packaging and shipment to Dover Air Force Base, Delaware, in an approved Department of Transportation container. A complete assessment of the item was conducted using the MMAS Phase II System 1 on May 27, 2005, and a Materiel

[1] The SCANS is a disposable neutralization reactor used to treat individual CAIS components.

Assessment Review Board was conducted on May 31, 2005, determining that the shell contained a liquid mustard (H) fill and energetics (a booster charge). PMNSCM deployed the EDS to dispose of the item and destruction operations were successfully conducted on
August 8 and 9, 2005.

- *San Francisco, California.* On July 6, 2005, a suspect item was recovered at the Presidio of San Francisco, California, which served as a military post for the U.S. between 1848 and 1994. The recovered item resembled a CAIS vial, but was slightly shorter in length, and therefore, was not presumed to contain CWM. An assessment of the item was conducted on July 12, 2005, and determined that the item contained the industrial chemical methyl bromide. The item was disposed of locally.

- *Former Lowry Bombing and Gunnery Range (FLBGR), Colorado.* On September 26, 2005, a suspect CAIS vial was recovered at a portion of the FLBGR, which is currently under remediation. FLBGR was established as an Army Airfield in 1942 and in June 1991 was established as a formerly used defense site. The suspect item was found to have a break at the end and did not contain any liquid. The item was placed in a kill bucket, packaged, and returned to the USACE to be turned over to a hazardous waste contractor for disposal.

Recovered Chemical Warfare Materiel

- *Munitions Assessment and Processing System (MAPS).* The MAPS is a fixed facility located at APG-EA, Maryland, that was designed to process recovered CWM (RCWM) by safely separating the chemical payload from the explosive component. Developmental Testing (DT)/Operational Testing (OT) Chemical Testing Operations began in March 2005 and ended in June 2005. Mustard, GB, and CG have been tested. The MAPS Operational In-Process Review is scheduled for the first quarter of FY 2006.

- *PBA, Arkansas.* Approximately 1,200 recovered munitions and 5,786 CAIS items are currently being stored at PBA. The stored munitions are predominantly 4.2-inch mortars and German Traktor Rockets (GTRs) while the CAIS items include both CWM and industrial chemicals. Several PMNSCM projects are underway to assess and dispose of these items and include the following:

  - Pine Bluff Munitions Assessment System (PBMAS). PBMAS is currently assessing RCWM stored at PBA. RCWM assessment began in July 2005. As of September 30, 2005, 50 of 79 drums containing 4.2-inch mortar rounds have been repacked/assessed, and will be destroyed in the Pine Bluff Explosive Destruction System (PBEDS). CAIS assessment operations began in April 2004 and concluded in February 2005. All CAIS items will be destroyed in the Rapid Response System (RRS) currently stationed in an area of PBA.

- RRS. PMNSCM has deployed the RRS to PBA to dispose of CAIS items in storage at PBA that have been assessed and segregated, by type, through use of PBMAS. CAIS treatment and disposal began in August 2005 and is scheduled to be completed by December 2007. As of September 30, 2005, 558 K941 vials of 5,786 total items (881 vials, 4,905 bottles) have been processed.

- PBEDS. PBEDS will consist of three separate EDS units, used in concert at one location, to destroy the current stock of RCWM at PBA. Site construction and preparation is currently under way. Full operations are expected to begin in January 2006.

- German Traktor Rocket Separation System (GTRSS). The GTRSS will be used to separate GTR warheads from the motors to facilitate destruction of the warheads in PBEDS. There are currently 466 GTRs in storage at PBA. This system was shipped to APG-EA on August 30, 2005, from the Ammunition Equipment Directorate, Tooele, Utah, for testing in early October 2005.

Binary Chemical Weapons Disposal

Binary components (56,764 binary M20 DF canisters, 7 drums of DF, and 291 drums of QL[2]) will be destroyed by neutralization at a facility in a portion of the former Integrated Binary Production Facility (IBPF) at PBA. Neutralization wastes will then be shipped to a commercial TSDF for final disposition. The Pine Bluff Binary Destruction Facility (PBBDF) construction and equipment installation was completed in May 2005 and operational staffing is at 100 percent. Systemization of the binary destruction facility (BDF), which began February 2005, was completed in August 2005. The OPCW Final Engineering Review will be held the week of October 24, 2005. PBBDF is scheduled to begin binary destruction operations in December 2005 and operations are to be completed in FY 2006.

Former Chemical Weapons Production Facility Destruction

Activities at two CWC-declared FPFs during FY 2005 included:

- *Newport Former Production Facility (NE-FPF), Newport, Indiana.* Step III destruction operations at the NE-FPF continued during FY 2005. Activities included the destruction of the rocket fill machine, land mine fill machine, spray tank fill machine, and projectile fill machine, as well as demolition of the settling basins. Additionally, the 4th, 5th, and 6th floors of Building 143 have been removed. Completion of destruction of the CWC-required parts of the facility is anticipated to occur in the fourth quarter of FY 2006.

[2] DF is the military symbol for methylphosphonic difluoride, the critical binary precursor of the nerve agent in what would have been the GB_2 binary munition (the M687 binary projectile). QL is the military symbol for an organophosphorus ester, the critical binary precursor to form nerve agent in what would have been the VX_2 binary munition (the Big Eye bomb).

- *IBPF, PBA, Pine Bluff, Arkansas.* Destruction of the IBPF began in October 2004 and continued until June 2005. During FY 2005, official notification from the OPCW was received to close out the destruction of the QL and DC[3] facilities. Additionally, destruction of the DF facility, with the exception of the Multiple Launch Rocket System (MLRS) building, was completed in June 2005. Close-out of the DF facility will not be complete until the MLRS building, which was converted for use in binary destruction, is destroyed. The statement of work for the destruction of the MLRS building is in final draft and the task modification will be awarded in January 2006. The MLRS building will be destroyed immediately after clean closure of the BDF, planned for the third quarter of FY 2006.

Miscellaneous Chemical Warfare Materiel Disposal

Activities during FY 2005 to destroy miscellaneous CWM, which includes empty TCs, Category 3 chemical weapons, and chemical samples, included:

- *APG-EA, Maryland.* Destruction of empty TCs at APG-EA was completed in FY 2005. All 749 TCs have been processed (cut and cleaned), shipped to RIA, and smelted for recycling.

  Disposal of chemical samples at APG-EA began in September 2000 and will continue through FY 2006. During FY 2005, the destruction of VX chemical samples (approximately 101 kilograms) was completed in August 2005 at the Chemical Transfer Facility (CTF).

  In June 2005, PMNSCM supported the destruction of 19 VX chemical samples at the CTF APG-EA. All VX samples (approximately 200 pounds) were destroyed in August 2005 with the exception of 3 liters reserved for EDS testing. Any VX remaining at the conclusion of testing will also be destroyed in the CTF.

- *DPG, Utah.* PMNSCM successfully coordinated the repackaging of 18 VX cylinders at DPG for transport to DCD in February 2005. Approximately 90 liters of VX were successfully transported and destroyed at TOCDF in February 2005.

- *UMCD, Umatilla, Oregon.* PMNSCM is currently coordinating the disposal of four GB TCs in storage at UMCD with the Project Manager for Chemical Stockpile Disposal. These TCs were temporarily overpacked in Single Pallet Only Rocket Transports (known as SPORTs) and moved to the staging area at UMCDF. All four TCs were sampled in August 2005 and are slated for destruction at UMCDF during the GB campaign in the October 2005 time frame. This operation will consume the remaining GB chemical samples at UMCD.

- *PBA, Pine Bluff, Arkansas.* Operations resumed at the Pine Bluff TC Decontamination Facility in June 2005, with the start of DT/OT using the alternative rinse solution, sodium permanganate. Operations were originally

[3] DC is the military symbol for a binary precursor, which is methylphosphonyl dichloride

suspended in September 2003 due to the discovery of residual lewisite inside the TCs, and research was initiated to develop a rinse solution to mitigate the residual lewisite. DT/OT, using sodium permanganate, concluded in August 2005, and full operations resumed in September 2005. As of September 30, 2005, 565 of 4,324 TCs have been decontaminated.

- *Chemical Samples Stored at Other Locations.* Pending issuance and/or modification of applicable environmental permits, disposal of chemical samples is scheduled to occur from FY 2005 through FY 2011 in the chemical stockpile disposal facilities at the following sites: Anniston, Alabama; Blue Grass, Kentucky; Pine Bluff, Arkansas; Pueblo, Colorado; and Tooele, Utah.

- *Category 3 Chemical Weapons*. In February 2005, personnel at NECD discovered an unfilled M23 land mine. Because the land mine did not contain agent, it was declared as a Category 3 chemical weapon and stored and destroyed under CWC requirements, to include notifying the OPCW of the find and the planned destruction of the item. The Category 3 land mine was destroyed in Building 144 at the NE-FPF on May 25, 2005. The CWC treaty inspectors were onsite and witnessed the destruction.

  PMNSCM coordinated with DCD and TOCDF for the destruction of two empty TMU-28 spray tanks found during warehouse clearance operations at DCD. The spray tanks were deformed (cut) to conform to CWC destruction. The cut tanks are awaiting shipment to UMCDF as simulated equipment test hardware items for use in systemization.

  Eight M23 land mines were discovered on March 17, 2005, by an offsite commercial contractor and determined to be unfilled. The mines were shipped to the CTF at the APG-EA for processing and disposal. Destruction of these items was completed on September 19, 2005, at the CTF.

Technology Test Program

The ”Partnering With Industry” approach (to establish a partnership with one or more TSDFs to transport and dispose of secondary wastes using non-incineration-based treatment technologies) completed the site selection process on March 17, 2005, when the contract was awarded to Texas Molecular (TM) Deer Park Services Limited Partnership. Wet air oxidation (WAO) is the technology being pursued. The relining process of the storage tanks to be used for storage of the DF and QL neutralent at TM is complete. As of September 30, 2005, fabrication of the WAO equipment is 47 percent complete.

The field testing phase for the comparison evaluation of two non-intrusive analyzers for fill characterization of CWM was completed. The two sensors being tested are the Portable Isotopic Neutron Spectroscopy and the Pulsed Elemental Analysis with Neutrons. Over 600 data spectra were collected on a variety of explosive, chemical, and industrial fills in varying munition types and overpacks. The effort is currently undergoing data reduction by the technology providers and will be followed by

an independent evaluation report. A draft report began review at the end of August 2005 and should be finalized in the first quarter of FY 2006.

An independent study was conducted on the transportation of DF and QL neutralent. The study report is currently being drafted and the final report is expected to be completed in the first quarter of FY 2006.

Technologies that continue to be tested and evaluated include persulfate oxidation and WAO. In addition, PMNSCM is finalizing reports on the development of the process chemistry for arsenicals contained in GTRs.

Environmental Compliance

The following table provides the status of environmental compliance documentation for PMNSCM activities:

Activity	Environmental Compliance Status
NSCMP	The final NSCMP Programmatic Environmental Impact Statement for transportable treatment systems was released in April 2001. The record of decision was signed in June 2002.
Multiple EDS at PBA, Arkansas	An environmental assessment was completed in August 2004. A draft FONSI was published in August 2004. The final FONSI was published in September 2004. The Clean Air Act (CAA) permit was approved in October 2004. The RCRA permit was issued in June 2005.
EDS Support for PBMAS Operations at PBA, Arkansas	The CAA permit was issued in August 2004. The RCRA permit was issued in January 2005.
Binary at PBA, Arkansas	The CAA permit was issued in January 2004. No RCRA permit was required for Binary operations at PBA. An environmental assessment was completed in June 2003. The FONSI was completed in January 2004.
Empty TC Decontamination and Recycling Operation at PBA, Arkansas	An environmental assessment and FONSI were completed in December 1999. The Clean Air Act permit modification was approved September 2002.
PBMAS at PBA, Arkansas	The environmental assessment was completed in May 2002 and the FONSI was finalized in June 2002. The CAA permit was issued in December 2001.
RRS at PBA, Arkansas	The CAA permit was received in June 2004 and the RCRA permit in December 2004.
WAO at Texas Molecular, Deer Park, Texas	An environmental assessment and FONSI were completed in April 2005. The RCRA permit modification for the storage of DF and QL neutralent was approved in August 2005. The RCRA permit modification for operation of the WAO unit was submitted in August 2005 and expected to be approved by the second quarter of FY 2006.

All other necessary permit requirements have been met and maintained and entailed no action during FY 2005.

Public Outreach

During FY 2005, the CMA Public Affairs Office (PAO) continued to support NSCMP missions across the United States. Activities included creation and distribution of information materials, post cards, and newspaper advertisements regarding issues such as selection of a new technology to support demolition of the former VX production facility at NECD, Indiana; RRS start of CAIS disposal operations; PBMAS munitions assessment campaigns; and upcoming EDS missions. PAO coordination continues in the Partnership With Industry.

PAO supported two meetings of the Core Group, a panel of government officials, regulators and representatives from local communities and national environmental groups, which provides input to NSCMP on important components of the program.

Program Reviews

The U.S. Army requested NRC to form a committee to advise PMNSCM on proposed plans for implementing newly recommended limits on airborne concentrations of chemical agents. The NRC report, *Impact of Revised Airborne Exposure Limits on Non-Stockpile Chemical Materiel Program Activities*, published in May 2005, provides recommendations on analytical methods, airborne contaminant monitoring, operational procedures, applicability of RCRA, and involvement of workers and the public in implementation of the new AELs. In response to this report, NSCMP is implementing many of the recommendations and investigating implementation of others to include use of state-of-the-art PPE.

Incidents

During FY 2005, there was one Category II chemical event (defined in accordance with AR 50-6, *Chemical Surety*) which occurred during NSCM operations:

> *VX detection during dismantling operations at former VX production facility.* On October 2, 2004, at the former nerve agent VX production facility at NECD, a MINICAMS alarm with a time-weighted average of 0.87 occurred while erecting primary containment for future operations. Depot Area Air Monitoring System analysis confirmed the presence of VX. Two personnel setting up the primary containment exited the area when the MINICAMS alarmed. They were sent to the Depot Medical Facility to be tested for symptoms of agent exposure. Their cholinesterase results came back within the normal range. Because the alarm occurred in secondary containment under engineering controls, there was no threat to off-post personnel or the environment.

There were 23 Category I chemical events at NSCMP sites. Twenty-two of these events occurred at NECD during the ongoing destruction of the former VX production facilities. The remaining event took place at Schofield Army Barracks, Hawaii, during range clearance activities. None of these events resulted in exposure of personnel or release of chemical agent to the environment.

APPENDIX A
ABBREVIATIONS AND SYMBOLS

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ABCDF	Aberdeen Chemical Agent Disposal Facility
ACAT	acquisition category
ACWA	Assembled Chemical Weapons Alternatives
ADEM	Alabama Department of Environmental Management
ADM	Acquisition Decision Memorandum
AEL	airborne exposure limit
AMC	U.S. Army Materiel Command
ANAD	Anniston Army Depot
ANCDF	Anniston Chemical Agent Disposal Facility
APB	Acquisition Program Baseline
APG-EA	Aberdeen Proving Ground-Edgewood Area
AR	Army Regulation
ATB	agent trial burn
BDF	Binary Destruction Facility
BGAD	Blue Grass Army Depot
BGCAPP	Blue Grass Chemical Agent-Destruction Pilot Plant
CAA	Clean Air Act
CAC	Citizens' Advisory Commission
CAIS	chemical agent identification set
CAMDS	Chemical Agent Munitions Disposal System
CDC	Centers for Disease Control and Prevention
CDF	chemical disposal facility
CDP	Chemical Demilitarization Program
CG	phosgene
CMA	U.S. Army Chemical Materials Agency
CSEPP	Chemical Stockpile Emergency Preparedness Program
CTF	Chemical Transfer Facility
CWC	Chemical Weapons Convention
CWM	chemical warfare materiel
D2-Puff	atmospheric dispersion model for predicting downwind hazard distances
DA	Department of the Army
DC	military symbol for a binary precursor, which is methylphosphonyl dichloride
DCD	Deseret Chemical Depot
DF	military symbol for the critical binary precursor for GB_2, which is methylphosphonic difluoride
DFS	deactivation furnace system
DHS-FEMA	Department of Homeland Security Federal Emergency Management Agency
DoD	Department of Defense
DPE	demilitarization protective ensemble

DPG	Dugway Proving Ground
DT	developmental testing
ECA	Edgewood Chemical Activity
ECR	explosive containment room
ECV	explosive containment vestibule
EDS	Explosive Destruction System
EOC	Emergency Operations Center
EOD	Explosive Ordnance Disposal
EPA	U.S. Environmental Protection Agency
FLBGR	Former Lowry Bombing and Gunnery Range
FONSI	finding of no significant impact
FPF	former (chemical weapons) production facility
FY	Fiscal Year [October 1 through September 30]
GB	military symbol for the nonpersistent nerve agent sarin
GB_2	military symbol for the nonpersistent nerve agent sarin formed from the binary munition
GTR	German Traktor Rocket
GTRSS	German Traktor Rocket Separation System
IBPF	Integrated Binary Production Facility [Pine Bluff Arsenal, Arkansas]
ISO 14001	International Organization for Standardization's standard for environmental management systems
JACADS	Johnston Atoll Chemical Agent Disposal System
JIC	Joint Information Center
KDEP	Kentucky Department of Environmental Protection
LCC	life cycle cost
LIC	Liquid Incinerator
M20	military model number for DF canister portion of the binary nerve agent GB_2 projectile, M687
M55	military model number for nerve agent GB or VX 115-millimeter rocket
MAPS	Munitions Assessment and Processing System
MDB	Munitions Demilitarization Building
MLRS	Multiple Launch Rocket System
MMAS	Mobile Munitions Assessment System
MPF	Metal Parts Furnace
NE-FPF	Newport Former Production Facility
NECD	Newport Chemical Depot
NECDF	Newport Chemical Agent Disposal Facility
NRC	National Research Council

NSCM	non-stockpile chemical materiel
NSCMP	Non-Stockpile Chemical Materiel Project
ODEQ	Oregon Department of Environmental Quality
OPCW	Organisation for the Prohibition of Chemical Weapons
ORR	Operational Readiness Review
OT	operational testing
PAO	Public Affairs Office
PAS	pollution abatement system
PBA	Pine Bluff Arsenal
PBBDF	Pine Bluff Binary Destruction Facility
PBCDF	Pine Bluff Chemical Agent Disposal Facility
PBEDS	Pine Bluff Explosive Destruction System
PBMAS	Pine Bluff Munition Assessment System
PCAPP	Pueblo Chemical Agent-Destruction Pilot Plant
PCD	Pueblo Chemical Depot
PL	Public Law
PMACWA	Program Manager Assembled Chemical Weapons Alternatives
PMNSCM	Project Manager for Non-Stockpile Chemical Materiel
PPE	personal protective equipment
QL	military symbol for the critical binary precursor for VX_2, which is O-Ethyl O-2-diisopropylaminoethyl methylphosphonite
RCRA	Resource Conservation and Recovery Act
RCWM	recovered chemical warfare materiel
RD&D	Research, Development, and Demonstration
RDT&E	research, development, test, and evaluation
RFP	request for proposal
RIA	Rock Island Arsenal
RRS	Rapid Response System
SC	Systems Contractor
SCANS	Single CAIS Assessment and Neutralization System
SCWO	Supercritical Water Oxidation
SRFX	Service Response Force Exercise
TC	ton container
TCC	ton container cleanout
TM	Texas Molecular
TOCDF	Tooele Chemical Agent Disposal Facility
TOX	toxic cubicle
TSDF	treatment, storage, and disposal facility
U.S.	United States
UDEQ	Utah Department of Environmental Quality

UMCD	Umatilla Chemical Depot
UMCDF	Umatilla Chemical Agent Disposal Facility
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
VX	military symbol for a persistent nerve agent, which is o-ethyl S-(2-diisopropylaminoethyl)methylphosphonothioate
VX_2	military symbol for a persistent nerve agent VX formed from the binary munition
WAO	wet air oxidation
WGI	Washington Group International

APPENDIX B
OCCURRENCES OF LEAKING CHEMICAL MUNITIONS

APPENDIX B
OCCURRENCES OF LEAKING CHEMICAL MUNITIONS

Fiscal Year	Leaker Occurrences by Type: M55 Rockets[b]	Leaker Occurrences by Type: SUPLECAM Samples[c] and Overpack Containers	Leaker Occurrences by Type: All Other Munitions	TOTAL	Leaker Occurrences by State[a]: AL	AR	CO	IN	JI	KY	MD	OR	UT	Other
2005	14	28	131	**173**	14	1	16	0	0	8	0	20	114	0
2004	34	46	77	**157**[d]	33	0	9	0	0	0	1	11	103	0
2003	15	7	25	**47**[d]	15	0	1	0	0	2	0	8	21	0
2002	45	18	32	**95**[d]	40	6	0	0	0	0	0	8	41	0
2001	58	35	187	**280**[d]	58	0	1	0	2	6	0	8	205	0
2000	68	142	35	**245**[d]	51	2	0	0	0	6	0	6	180	0
1999	72	69	222	**363**[d]	65	1	0	0	0	8	0	4	286	0
1998	27	27	45	**99**[d]	17	2	0	0	0	0	0	5	74	0
1997	61	11	46	**118**[d]	62	2	12	0	1	2	0	6	33	0
1996	153	3	98	**254**[d]	119	0	2	0	70	7	0	3	53	0
1995	107	11	17	**135**[d]	66	0	0	0	0	1	0	13	55	0
1994	144	29	27	**200**	82	4	2	0	0	6	0	5	103	0
1993	82	3	37	**122**	37	1	1	0	2	11	0	7	61	0
1992	81	139	52	**272**	52	1	1	1	6	21	0	7	183	0
1991	68	3	42	**113**	28	3	0	0	5	6	0	8	63	0
1990	76	5	27	**108**	17	11	1	0	7	2	0	12	58	0
1989	131	9	44	**184**	19	5	3	0	12	7	0	14	124	0
1988	50	5	26	**81**	14	2	3	0	2	0	0	20	40	0
1987	44	22	45	**111**	41	3	0	0	6	3	0	6	52	0
1986	82	18	28	**128**	40	0	11	0	12	4	0	10	51	0
1985	204[e]	4	27	**235**	41	0	0	0	4	15	0	8	167	0
1984	160[e]	0	62	**222**	8	0	2	0	1	14	0	183	14	0
1983	14	0	52	**66**	6	0	1	0	6	26	0	4	23	0
1982	12	0	71	**83**	12	0	0	0	12	9	0	7	38	5
1981	55	0	478	**533**	54	1	4	0	10	16	0	8	427	13
1980[f]	99	2	89	**190**	82	4	2	0	5	11	0	20	57	9
TOTAL	**1,956**	**636**	**2,022**	**4,614**	**1,073**	**49**	**72**	**1**	**163**	**191**	**1**	**411**	**2,626**	**27**

Notes:

The inventory of leaking munitions continues to be reduced at sites with operating CDFs.

[a] AL Alabama (ANAD)
AR Arkansas (PBA)
CO Colorado (PCD)
IN Indiana (NECD)
JI Johnston Island (includes the storage site and JACADS; mission completed in 2000)
KY Kentucky (BGAD)
MD Maryland (APG-EA)
OR Oregon (UMCD)
UT Utah (DPG)
Other Germany (munitions from German retrograde program that were transferred to Johnston Island in December 1990)

[b] Includes GB and VX rockets and rocket warheads.

[c] Surveillance Program, Lethal Chemical Agents and Munitions (SUPLECAM) (leakers from drilled and tapped holes in munitions used for chemical agent sampling).

[d] Some leaking munitions were detected during disassembly at the CDFs prior to their destruction, rather than at the storage area (5 in 1995, 64 in 1996, 11 in 1997, 102 in 1998, 161 in 1999, 24 in 2000, 168 in 2001, 6 in 2002, 16 in 2003, and 45 in 2004). All leaks detected during these operations were under engineering controls.

[e] A large number of M55 rockets were inspected in 1984 and 1985. Quarterly storage monitoring inspections of nerve agent GB M55 rockets were conducted thereafter.

[f] Specific totals for years prior to FY 1980 are not included, as early records are incomplete and any total incorporating these time frames cannot be considered accurate.

APPENDIX C
PROGRAM DISBURSEMENTS SUMMARY

Appendix C
U.S. Army Chemical Demilitarization Program
FY 2005 Disbursements Summary - as of September 30, 2005
(includes FY 2005 and prior year funds)
($ in thousands)

Project/Facility	Chemical Agents and Munitions Destruction, Army				Military Construction
Programmatic Function	**RDT&E**	**PROC**	**O&M**	**Total**	**Total**
Program Management (CMA)	84	0	23,866	23,950	413*
Program Management (PMCSD)	0	4,215	47,865	52,080	0
Chemical Demilitarization Training Facility	0	0	5,208	5,208	0
CAMDS (Operations)	0	0	22,935	22,935	0
JACADS (Closure)	0	-205	4,209	4,004	0
TOCDF (Operations)	0	4,554	134,365	138,919	0
ANCDF (Operations)	0	116	141,744	141,860	1,893
UMCDF (Systemization/Operation)	0	258	132,721	132,979	523
PBCDF (Systemization)	0	6,650	128,346	134,996	2,741
Alternative Technologies and Approaches Project Program Management	160	0	7,352	7,512	0
ABCDF (Operations)	645	0	111,078	111,723	404
NECDF (Construction/Systemization)	7,262	0	94,462	101,724	3,058
Non-Stockpile Chemical Materiel	36,938	494	127,839	165,271	753
ACWA Program Management	14,139	0	0	14,139	0
PCAPP (Design)	40,903	0	0	40,903	22,561
BGCAPP (Design)	47,280	0	0	47,280	24,769
Chemical Stockpile Emergency Preparedness	0	32,564	117,639	150,203	0
TOTAL	147,411	48,646	1,099,629	1,295,686	57,115

* MILCON for Program Management refers to Planning & Design for various locations